

**WESTFORD BOARD OF HEALTH REGULATIONS**  
**REQUIREMENTS FOR THE SUBSURFACE DISPOSAL OF SANITARY**  
**SEWAGE**

(Revised through 9/26/05)

Westford Board of Health

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## **1.0 Purpose and Authority**

These regulations are adopted in accordance and with authority from M.G.L c. 111, s. 31 and M.G.L. c. 21A, s.13. The purpose of these regulations is to protect public health, safety, and the environment by requiring the proper siting, design, permitting, construction, inspection, and maintenance of sewage disposal systems located in Westford. All prior regulations adopted by this Board relative to sewage disposal systems are hereby superseded. These regulations should be read with 310 CMR 15.000: Title 5 and 314 CMR 5.00: Massachusetts Groundwater Discharge Program.

## **2.0 Definitions**

Approving Authority- Westford Board of Health or its agent

Bedroom- see definition in 310 CMR 15.002

Board- Westford Board of Health

Conditionally passing Title 5 inspection- as defined in Part A, section B of the Department of Environmental Protection approved system inspection form

Disposal System or Sewage Disposal System- a system or series of systems for the treatment and disposal of sanitary sewage below the ground surface.

Interim Wellhead Protection Area- as defined in 310 CMR 22.02

New Construction/Expansion- as defined in 310 CMR 15.002

Permit-sewage disposal system construction permit

Soil Testing- percolation tests and/or soil evaluation

System Designer- Professional Engineer or Registered Sanitarian who has demonstrated knowledge and experience in sanitary engineering, a qualified system design professional

System Inspection- as defined in 310 CMR 15.302, also known as a title 5 inspection

System Inspector- a person approved by the Department of Environmental Protection pursuant to 310 CMR 15.340

System Installer- a person licensed by the Westford Board of Health who constructs, repairs, or replaces sewage disposal systems

Title 5- 310 CMR 15.000 Massachusetts State Environmental Code: Minimum Requirements for the Subsurface Disposal of Sanitary Sewage

Wetland- any land area or surface so defined by the Massachusetts Wetlands Protection Act M.G.L. c.131, s. 40 or 310 CMR 10.00

Zone I and Zone II- as defined in 310 CMR 22.02

Transmission Line- any solid pipe or conduit for the transmission of sanitary sewage

### **3.0 Lot Testing- Soil Evaluation and Percolation Testing**

Soil evaluation and percolation testing may be conducted year round. At the Boards or Agents discretion, additional soil evaluation and/or percolation testing may be required after groundwater has receded so that either the complete soil profile or the soils hydraulic conductivity can be more accurately evaluated. Additional site evaluation for ledge and wetlands may be required if the site is covered with ice and/or snow.

- 3.2 All applications for lot testing shall be submitted in duplicate.

### **4.0 Requirement(s) for Sewage Disposal System Construction Permits**

- 4.1 Applications for a disposal system construction permit shall be considered complete when the following have been received in the Board of Health office.
- a) Completed application form
  - b) Permit fee
  - c) Two (2) sets of the proposed design plan that are in full-compliance with Title 5 and local Board of Health regulations.
- 4.2 All facilities for the disposal, treatment, or transmission of sanitary sewage (including but not limited to Wastewater Treatment Facilities) which are located in the Town of Westford shall require approval and a permit from the Approving Authority. The Board's agent may issue repair, upgrade, or component replacement permits as required to protect public health and the environment.
- 4.3 Permits for individual system component replacements, alterations, or relocations may only be issued after a complete system inspection has been conducted and the inspection report has been received in the Board of Health office. The requirement for system inspection before the issuance of a disposal system construction permit may be waived at the Board's or agent's discretion for simple repairs such as the replacement of pipes, tees, etc.
- 4.4 A lot with an existing dwelling shall not be made smaller so as to subdivide or create another building lot unless either an approved sewage disposal system permit and associated plan of the lot with the existing dwelling is on file in the Board of Health office depicting suitable soils in the designated reserve area, or, other proof is available to the Approving Authority indicating that a reasonable upgrade can be made on the existing lot. This section shall not apply to lots in which disposal systems have been permitted and installed in accordance with the 1995 version of Title 5.
- 4.5 Permanent structures in excess of four hundred (400) square feet, such as but not limited to, buildings, foundations, or swimming pools shall be prohibited on any lot until the owner/applicant has provided proof to the approving authority that the lot with the proposed construction could support a disposal system upgrade.

This section shall not apply to lots in which sewage disposal system permits have been issued since March 31, 1995 in accordance with the 1995 version of Title 5.

## **5.0 Title 5 System Inspections**

- 5.1 Proposals for permanent structures or additions to permanent structures which are less than four hundred (400) square feet and do not increase the sanitary sewage flow from the facility are prohibited unless a system inspection is conducted to determine the location of all system components. This requirement may be waived by the approving authority if official records on file in the Board of Health office depict the location of system components.
- 5.2 If a dwelling is proposed to be constructed, reconstructed, altered, or repaired to an extent that the gross potential living/occupancy area is increased by fifty percent or greater, a system inspection shall be performed on the disposal system. If inspection determines that the system is failing, the system shall be upgraded. This requirement for inspection shall in no way exempt the owner/operator from the requirement to upgrade the system in full-compliance with the requirements for new construction should the approving authority determine that the construction would result in either an increase in the sanitary sewage flows from the facility or an expansion of use.
- 5.3 All work and modifications conducted as a result of a “conditionally” passing Title 5 system inspection shall require a sewage disposal system construction permit.

## **6.0 Sewage Disposal System Plans, Specifications and Requirements**

- 6.1 Lot testing that is conducted for disposal system design purposes shall be depicted on a test location plan at a scale of 1”=20’, 1”=40’ or 1”=60’ and shall be submitted to the Board within sixty (60) days of performing said tests. A test location plan shall also depict proposed and existing lot lines, known wetlands, and known topography. If a completed design plan is submitted to the Board within sixty (60) days of testing, the requirement for a test location plan shall be waived. The Board may in the future require that test location plans and disposal system design plans be submitted electronically and/or in a specific digital format.
- 6.2 Plans designed to serve residential populations shall be designed with a system capacity of one hundred fifty (150) gallons per day per bedroom.
- 6.3 A minimum of one thousand (1,000) square feet shall be available on each single family residential lot for the installation of the primary sewage disposal system, and an additional one thousand square feet shall be available on the lot for the installation of the reserve or replacement sewage disposal system.

- 6.4 The disposal systems and all components shall be installed entirely on the same lot as the facility discharging sewage into said system.
- 6.5 The minimum distance from a soil absorption system to a wetland, retention pond/basin, or detention pond/basin shall be one hundred (100) feet. This distance shall be measured from the top rim of a retention pond/basin and from the elevation of the highest outlet structure in a detention pond/basin.
- 6.6 The minimum distance from a septic tank, pump chamber, or soil absorption system to a private drinking water well shall be one hundred (100) feet.
- 6.7 The minimum distance from a soil absorption system to a subsurface stormwater infiltration system that has a storage volume of greater than five thousand (5,000) gallons shall be fifty (50) feet. The storage volume of a subsurface stormwater infiltration system shall be calculated by summing the total volume of all subsurface leaching structures used for stormwater management which are separated by less than twenty five (25) feet.
- 6.8 A manhole with a riser within twelve (12) inches of final grade shall be provided for every continuous one hundred (100) foot section of gravity sewage transmission line. Gravity sewage transmission lines that serve shared systems or systems serving more than one dwelling may extend three hundred (300) feet between manholes.
- 6.9 An effluent filter and access port to within 6 inches of final grade is required in and/or above the outlet tee of all septic tanks. All distribution boxes must be able to withstand vehicular loads and shall be designed and constructed so as to withstand H-20 loading. A minimum of schedule 40 PVC (or its approved equal) shall be required for all piping.
- 6.10 Only 1½ inch stone aggregate shall be used below distribution leaching laterals from the crown of the distribution pipes to the bottom of the soil absorption system.
- 6.11 No sewage disposal system serving new construction shall be installed in an area that has a percolation rate greater than thirty minutes per inch. Percolation tests that have rates greater than thirty minutes per inch shall be located a minimum of twenty-five feet from the proposed soil absorption system.
- 6.12 The Board, at its own discretion, may require the applicant at his/her own expense, to conduct environmental and/or hydrogeological studies regarding a proposed development or sewage disposal system(s) to determine what effects the proposal would have on public health or the environment.

6.13 In addition to 310 CMR 15.220 the following items must be depicted on disposal system design plans:

- a) Name of person who delineated wetlands, date of delineation, and mean high water elevations for surface waters.
- b) Existing and proposed topography for all areas that may affect the disposal system. Topographical elevations shall be provided in increments not more than every two (2) feet. Topographical contours shall be provided for each thirty (30) foot horizontal increment. The datum of topography shall be the USGS National Geodetic Vertical Datum 1929 (NGVD) wherever practical.
- c) All relative topographical and subsurface features or structures, existing and proposed, within one hundred fifty (150) feet of the proposed disposal system. This shall include but not be limited to drinking water wells, subsurface sewage disposal systems, stormwater management structures, wetlands, utilities, easements, driveways, buildings etc.
- d) All lot lines to scale, lot size, name of professional who delineated lot boundaries for record plan, record plan number, date, and registry book & page.
- e) All soil testing conducted on lot, including unsatisfactory testing
- f) A statement as to the disposal system's location relative to nitrogen sensitive areas, specifically: (1) public drinking water supply resource areas such as Zone I's, Zone II's, and Interim Wellhead Protection Areas, and (2) areas served by both private wells and on-site sewage disposal systems.
- g) Legal owner of lot to be served by disposal system, if a corporation, include officers, if a trust, include trustees.
- h) Street address, subdivision lot number and assessor's map and parcel.
- i) A notation depicting that 1½ inch stone aggregate is required from the crown of the distribution pipes to the bottom of the soil absorption system.
- j) A notation depicting the required system capacity (gallons per day) and the approved system capacity provided (gallons per day)
- k) For systems over two thousand gallons per day, the groundwater mounding effect from the introduction of effluent to the soil shall be calculated and this mounding effect shall be added to the groundwater offsets in 310 CMR 15.212.
- l) The original seal and signature of the system designer.

6.14 As-built plan specifications:

- a) Two sets of As-built plans and Certifications shall be submitted to the Board of Health office by the same designer who designed the approved plans within thirty days of the completed installation.
- b) As-built information must be overlaid onto the approved design plan.
- c) As-built topography after finish cover has been applied shall be required for all disposal system designs. This must include breakout elevations and finish elevations above all system components.

- d) As-built elevations must be provided for the following: top of foundation; sewer pipe invert at dwelling; pipe inverts in/out of all tanks, pump chambers, distribution boxes, etc.; top of all tanks, pump chambers, distribution boxes, etc.; beginning and ending of all perforated leaching laterals; bottom of soil absorption system.
- e) As-built water line and driveway location shall be provided.
- f) Horizontal ties from dwelling corners or some other permanent structure to all major system components shall be required.
- g) Date and type of all inspections performed by the system designer during construction.

## **7.0 Inspections Conducted by the Approving Authority**

- 7.1 No inspections will be conducted by the Board of Health or its agent until the licensed system installer has appeared in the Board of Health office and signed the disposal system construction permit and picked up the Job-Weather-Card. No inspections shall be conducted by the Board or its agent unless the licensed installer requests the inspection and is present on site during the inspection.
- 7.2 All inspections required for a disposal system shall be performed within 30 days of commencement of disposal system construction or disposal system permit shall be considered void, unless a prior agreement has been made with the approving authority that allows for a longer period of time. The Board or agent may prohibit the performance of inspections if weather conditions exist that make good construction practices difficult to adhere to and quality materials difficult to obtain.
- 7.3 The Board generally conducts the minimum following inspections. However, inspection requirements may vary and shall be determined by the Approving Authority.
  - 1. Bottom of excavation for soil absorption system; fill approved, before placement in excavation
  - 2. Fill in place; stone approved but not in place.
  - 3. Final inspection, when system is complete in every way except for the placement of final cover over the components. Peastone should be in place with the beginning and ends of the pipes exposed. Distribution box should be filled with water and 3 gallons of water in a container must be left next to distribution box for a water test. Pump(s) must be operable.
  - 4. A pump and alarm float test when present (pump systems only)
- 7.4 Should a retaining wall or impermeable membrane be used as part of the disposal system an inspection of the excavation at its deepest point below the wall or membrane is required. An inspection prior to backfilling is also required.

- 7.5 No components shall be backfilled or obstructed from view until the Board or agent has signed-off on that particular component(s) on the Job-Weather-Card. The Job-Weather-Card shall be posted in plain view on the building where sewer pipe exits, in the window of excavator or backhoe, or in some other pre-arranged location.

## **8.0 Inspections Performed and Required by the System Designer**

- 8.1 The designer should perform as many inspections as he/she feels is appropriate depending on site conditions, design specifics, etc. At a minimum however, the designer must perform the following inspections.

1. Bottom of excavation for soil absorption system
2. Final inspection prior to backfilling components

## **9.0 Certification Required by System Designer and Installer**

- 9.1 Designer must submit an as-built plan and certification statement within thirty days from the time the disposal system installation was completed or, disposal system permit shall be void. Certification must be provided on form shown in Appendix I. This form may be transposed onto designer's letterhead, but language may not be added, deleted, or altered in any way.
- 9.2 Installer must submit the Job-Weather-Card with the certification section completed within 30 days of completing disposal system installation, or disposal system permit shall be void. A sample Job-Weather-Card is shown in Appendix II.
- 9.3 As-built plans and certifications in full compliance with Title 5 and these regulations shall be submitted to the approving authority a minimum of ten (10) days prior to the issuance of a certificate of compliance by the approving authority.

## **10.0 Disposal System Installer's License**

Annual licenses, for the period January 1 through December 31, to install or repair disposal systems in Westford shall be issued to all installers who score a 70% or better on the Board's installer's exam, have previous experience with disposal systems, and are of good moral character. Installers who do not renew their license by January 30<sup>th</sup> are required to take the installer's exam again. The Board or its agent reserves the right to require additional installer examinations if required.

## **11.0 Variances**

- 11.1 Variances from these regulations may be granted for disposal systems serving new construction only after notification of the variance request and associated

public hearing has been sent by certified mail with cost borne by the applicant to all direct abutters and to abutters-to-abutters within three hundred feet of the applicant's property a minimum of ten days prior to the hearing date. This notification must include the specific nature of the variance request, the date, time, and location of the public hearing.

- 11.2 Proof showing that the abutter notifications were sent by certified mail, the abutters list as certified by the assessor's office, and a copy of the letter sent to abutters must all be received in the Board of Health office one week prior to the hearing date.
- 11.3 Variances from these regulations for systems serving existing dwellings with no increase in flow shall be granted in accordance with 310 CMR 15.402 through 15.405 Local Upgrade Approval.